

REMARKS

Claims 1-20 are pending.

Claims 7 and 14 have been amended to include the limitation of the probe pins being non-spring loaded. The support for these amendments can be found in the Detailed Description section of the current application at page 6, line 18 through page 7, line 15. No new subject matter has been added with these amendments.

A. Comments

The current Preliminary Amendment is presented to address the arguments of the Final Office Action dated November 25, 2002 in the parent application.

B. 35 U.S.C. § 102(b)

Frederickson, et al. - Claims 7 and 14.

Claims 7 and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,955,888 issued September 21, 1999 to Toby Frederickson, et al. (hereinafter "the Frederickson patent") (Office Action, pages 2-3).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claims 7 and 14 have been amended clarify that the present invention related to non-spring loaded probe pins. Support for this amendment can be found at page 6, line 18 through page 7, line 15.

The Official Action at page 3 states that the Frederickson patent discloses a "plurality of probe pins 620 extending between said housing first surface and said housing second surface." However, the probe pins disclosed in the Frederickson patent are actually spring loaded pogo pins (col. 6, line 11). Thus, the Frederickson patent teaches a spring loaded probe array.

Therefore, as the Frederickson patent does not teach or disclose a plurality of non-spring loaded probe pins, reconsideration and withdrawal of the Section 102(b) rejection of claims 7 and 14 are respectfully requested.

C. 35 U.S.C. § 103(a)

Frederickson - Claim 1-2, 5-9, 12-13, 15-16, and 19-20

Claims 1-2, 5-9, 12-13, 15-16, and 19-20 stand rejected under 35 U.S.C. § 103(a) as being obvious over the Frederickson patent (Office Action, page 4). For at least the reasons set forth below, Applicant submits that the claims 1-2, 5-9, 12-13, 15-16, and 19-20 are not rendered obvious by the Frederickson patent.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make

the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

With regard to claims 1, 2, 5-9, 12, 13, 15, 16, 19, and 20, the Office relies on the Frederickson patent (Fig. 6B) for a teaching of a "plurality of probe pins 620 each further include a leading end having a taper 626." (Office Action, page 3).

Claim 1 (from which claims 2, 5, and 6 depend) contains the limitation that the probe pins include a leading end having a taper between about 10 and 25 degrees. The Office Action admits that the Frederickson patent does not teach or suggest a taper between 10 and 25 degrees. However, the Office Action contends that it would have been obvious to choose an appropriate range of taper under *In re Aller* (Office Action, page 4).

As previously stated in the August 13, 2002 Amendment, the Frederickson patent teaches probe pin piercing of a BGA solder ball, stating that "each tip 626 is a single pointed tip which pierces the outer surface of the solder ball 126" (col.8 line 36). The tapering of the probe pin tip in the Frederickson patent facilitates the piercing of an oxidation or contaminant layer on the surface of a solder ball, in order to provide reliable electrical contact between the pogo pins and the solder ball (col 8, line 35-41). Such tapering is also related to the sloughing off of adhered contaminants that are "pushed along the tapered portion of the tip 626 such that the contaminant is formed into an annular ring which eventually fractures and falls away." (col 8, line 46-48). Thus, the tapering of the probe pin in the Frederickson patent facilitates breaking through an oxidation or contamination layer in a solder ball, as well as providing a surface for contaminants to be pushed along in order avoid contaminant build up on the surface of the probe tip.

As further previously stated in the August 13, 2002 Amendment, the present invention discloses that a "specific tapering is selected to allow the probe pin to be inserted into the electrical socket opening without catching on the socket or bending. The tapered leading ends 122 allows a margin of error and self-alignment while sliding into the socket opening" (Detailed Description section of the current application at page 6, lines 7 through 11). Thus the probe pin of the present invention is specifically designed for testing an electrical socket, wherein the probe pin tip is tapered in order to facilitate insertion into such an electrical socket (Detailed Description, page 6 line 5-11).

As yet further previously stated in the August 13, 2002 Amendment, "In order to rely on a reference as a basis of rejection for an applicant's invention, the reference must either be in the field of the applicant's endeavor or, if not, be reasonably pertinent to the particular problem with which the invention concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). (See M.P.E.P. 2141.01(a)). The Frederickson patent involves a different field of endeavor since it teaches the use of the probe pin in a different structure (a solder ball) for a different purpose (breaking through a contaminant layer and providing a surface for sloughed off contaminants), and is not reasonably pertinent because a person having reasonable skill in the art would not expect to solve the problem of probe pin insertion into an electrical socket by considering a reference dealing with probe pin piercing of a solder ball. Therefore, the Frederickson patent does not suggest or motivate an appropriate range of taper for inserting a probe pin into an electrical socket, and thus claim 1 is not rendered obvious by the Frederickson patent.

In response to this argument, the November 25, 2002 contends that the range of the taper of the probe "would have been obvious of design choice to choose appropriate range, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955)."

First, the Applicants would like to point out that the cited case is inapplicable to the present situation as it deals with a change in size, whereas, the present situation there is a different in the shape of the probe which changes its function.

Second, the Office Action has not set forth a prima facie case of obviousness. In fact, rejection has not even shown one of three basic criteria for such a case. The first criterion requires that "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings." The Office Action has shown not such suggestion or motivation. The second criterion requires that "there must be a reasonable expectation of success." As the Frederickson patent and the present application relate to different endeavors, there would be no expectation of success in an opposing endeavor. Finally, "the prior art reference (or references when combined) must teach or suggest all the claim limitations." Clearly, the Frederickson patent does not do so.

Lastly, the Office Action did not even address the issues present by the Applicants regarding the fact that the prior art reference and the present application address different endeavors.

The Applicants assert that claim 1 is not rendered obvious by the Frederickson patent. If an independent claim is nonobvious, then any claim depending from the independent claim is also nonobvious. *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1998). Because dependent claims 2 and 5-6 depend from claim 1, Applicant submits that claims 2 and 5-6 are not rendered obvious by the Frederickson patent.

Therefore, as the Frederickson patent neither teaches nor suggests the claimed taper, reconsideration and withdrawal of the Section 103(a) rejection of claims 1-2 and 5-6 are respectfully requested.

Claims 8, 9, 12, 13, 15, 16, 19, and 20 depend from either independent claim 7 or independent claim 14; therefore, all of the responses with regard to the Section 102(b) rejection of claims 7 and 14 are equally applicable to the present rejection of claims 8, 9, 12, 13, 15, 16, 19, and 20 and are hereby incorporated herein by reference as though repeated in total.

As stated above, independent claims 7 and 14 have been amended to describe a plurality of non-spring loaded probe pins. Claims 8, 9, 12, and 13, and claims 15, 16, 19, and 20, depend from claims 7 and 14, respectively, and as such contain all of the limitations of the independent claim from which they depend. As previously discussed, the Frederickson patent only teaches spring loaded pogo pins.

Because the Frederickson patent does not teach or disclose a plurality of non-spring loaded probe pins, the Frederickson patent does not render claims 7-9, 12, 13, 15, 16, 19, and 20 obvious. Therefore, reconsideration and withdrawal of the Section 103(a) rejection of claims 7-9, 12-13, 15-16, and 19-20 are respectfully requested.

Frederickson in view of William Lee Oates- Claims 3, 4, 10, 11, 17, and 18

Claims 3, 4, 10, 11, 17, and 18 stand rejected under 35 U.S.C. § 103(a) as being obvious over the Frederickson patent in combination with U.S. Patent No. 3,599,093 issued August 10, 1971 to William Lee Oates, (hereinafter "the Oates patent") (Office Action, page 5).

Claims 3, 4, 10, 11, 17, and 18 depend from independent claims 1, 7, and 14; therefore, all of the responses with regard to the Section 103(a) rejection of claim 1 are equally applicable to the present rejection of claims 3-4 and are hereby incorporated herein by reference as though repeated in total. In addition, all of the responses with regard to the Section 102(b) rejection of claims 7 and 14 are equally applicable to the present rejection of claims 10-11 and 17-18, respectively, are hereby incorporated herein by reference as though repeated in total.

The Office Action relies on the Oates patent for a teaching of "wherein a plurality of probe pins each comprises steel coated with gold" (Office Action, page 5). However, the Oates patent does not overcome the deficiencies of the Frederickson patent regarding the obviousness of the range of taper, therefore claims 3 and 4 are patentable over the Frederickson patent in light of the Oates patent.

In addition, as discussed above with respect to the 103(a) rejection of claims 7 and 14 from which 10-11 and 17-18 depend, respectively, the Frederickson patent does not teach or disclose a plurality of non-spring loaded probe pins, and as such does not teach all of the limitations of claims 10-11 and 17-18; therefore claim 10-11 and 17-18 are not rendered obvious under the Frederickson patent. The Oates patent does not overcome the deficiencies of the Frederickson patent regarding the limitations of non-spring loaded probe pins, as Oates only

teaches or suggests spring-biased probe pins. (See Fig. 8). Therefore, claims 10-11 and 17-18 are patentable over the Frederickson patent in light of the Oates patent.

In view of the foregoing remarks, the Applicants request allowance of the application. Please forward further communications to the address of record. If the Examiner needs to contact the below-signed attorney to further the prosecution of the application, the contact number is (503) 712-1682.

Dated: February 24, 2003

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Robert G. Winkle", is written over a horizontal line.

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VERSION OF CLAIMS WITH MARKINGS

IN THE CLAIMS:

7. (Second Amended) A probe pin array, comprising:

a housing having a first and a second surface;

a plurality of [rigid] non-spring loaded probe pins extending between said housing first surface and said housing second surface, wherein said plurality of [rigid] non-spring loaded probe pins extend substantially perpendicularly from said housing second surface; and

at least one alignment guide extending from said housing second surface having at least one chamfered surface oriented toward said plurality of [rigid] non-spring loaded probe pins.

14. (Second Amended) A probe pin array, comprising:

a housing having a first and a second surface;

a carrier having a first surface and a second surface, wherein said carrier second surface abuts said housing first surface;

a plurality of [rigid] non-spring loaded probe pins extending between said housing first surface and said

housing second surface and extending between said housing first surface and said housing second surface, wherein said plurality of [rigid] non-spring loaded probe pins extend substantially perpendicularly from said housing second surface; and

at least one alignment guide extending from said housing second surface having at

least one chamfered surface oriented toward said plurality of [rigid] non-spring loaded probe pins.